

Intimate Partner Violence Among Abused and Neglected Children in Young Adulthood: The Mediating Effects of Early Aggression, Antisocial Personality, Hostility and Alcohol Problems

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This study examined whether male and female abused and neglected children report higher levels of intimate partner violence (IPV) perpetration in young adulthood than a matched control group. We also examined whether this association was mediated by early aggressive behavior, adult antisocial personality disorder, hostility, and problem drinking for men and women. The sample consisted of individuals who had official records of child abuse and/or neglect prior to age 12 and matched controls who were followed up and interviewed at approximately age 29 years. Individuals who had ever been married or lived with someone (N = 961) reported on lifetime perpetration of IPV. For the total sample, abused and neglected children reported significantly higher rates of ever hitting or throwing things at a partner, ever hitting or throwing first, and ever hitting or throwing first more than once. Both male and female abused and neglected children reported significantly higher rates of ever hitting or throwing things at a partner than matched controls. Antisocial personality disorder mediated the effects of abuse/neglect on IPV for men and women and hostility and alcohol problems also mediated the effects for abused and neglected women. Early aggressive behavior was not a significant mediator for either gender. Overall the results reveal a link between early childhood victimization and later perpetration of violence against partners for both men and women. Further research on the mechanisms is necessary before firm conclusions may be drawn. *Aggr. Behav.* 29:332–345, 2003. © 2003 Wiley-Liss, Inc.

Key words: intimate partner violence; spouse abuse; child abuse; victimization; maltreatment; alcohol problems; hostility; antisocial personality disorder; aggression

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INTRODUCTION

Intimate partner violence (IPV) (also referred to as spouse abuse or spouse battering) is a serious public health and criminal justice problem. In a recent a national study, almost 25% of women and 8% of men reported that they had been raped or physically assaulted by a current or former spouse, cohabitating partner, or date at some time in their life [Tjaden and Thoennes, 2000]. Furthermore, estimates from the National Family Violence Surveys indicate that approximately one out of six couples experience IPV annually and about one in three women will experience IPV in her lifetime [Schafer et al., 1998]. Although numerous studies have been conducted on the subject of battering, the literature is plagued by inconsistencies [Archer 2000; Gelles and Loseke, 1993].

One of the most consistent findings in the study of IPV is that exposure to violence in childhood, including witnessing parental violence toward each other [e.g., Edelson et al., 1985; Hastings and Hamberger, 1988; Hotaling and Sugarman, 1986; Lee and Weinstein, 1997; Rosenbaum and O'Leary, 1981; Tolman and Bennett, 1990] and experiencing maltreatment in childhood [Capaldi and Clark, 1998; Dutton and Hart, 1992; Holtzworth-Munroe and Stuart, 1994; Kantor, 1993] predicts IPV in adulthood. Yet, there is a lack of information about what mechanisms or processes might account for this effect. In this study we examine the association between childhood victimization and perpetration of IPV in young adulthood for both men and women.

Theoretical Models

Several theoretical perspectives can explain the link between childhood family violence and adult family violence. A social learning perspective provides a direct explanation [Davidovich, 1990; Hasting and Hamberger, 1988; Hotaling and Sugarman, 1986]. This perspective posits that children who are exposed to violence in the home learn definitions favorable towards aggression and violence and model such behavior themselves. That is, these individuals learn that aggression towards intimates is acceptable behavior within the home and that violence is an effective way to solve problems [Capaldi and Clark, 1998; Edelson et al., 1985; Simons et al., 1995]. Empirical research has supported this perspective and shown that the experience of violence in childhood not only predicts general patterns of violent behavior [Widom, 1989b; Maxfield and Widom, 1996], but specifically higher rates of IPV [Else et al., 1993; Hastings and Hamberger, 1988; Hotaling and Sugarman, 1986].

A number of mediational models have also been proposed as explanations for the association between childhood maltreatment and later violence. For example, it is possible that children who are victims of violence develop emotional or psychological problems or inappropriate coping behaviors in response to their painful experiences [Downs et al., 1996; Widom, 2000b]. Several studies of children and adolescents who had experienced child abuse found that externalizing and antisocial behaviors (e.g., aggression, violence, hyperactivity, and delinquency) were consequences of childhood victimization [see Maxfield and Widom, 1996; Miller et al. 1997; Stouthamer-Loeber et al., 2001; Smith and Thornberry, 1995; Widom, 1989b]. Furthermore, early aggressive behavior has been shown to be a strong predictor of IPV, especially for men [Capaldi and Clark, 1998; Capaldi and Crosby, 1997; O'Leary, 1993; Simons et al., 1995]. Capaldi and Clark [1998] found that antisocial behavior mediated the relationship between poor parenting (including severe discipline)

and subsequent IPV [see also Simons et al., 1995]. Therefore, IPV in adulthood may be part of a general pattern of aggressiveness developed in childhood or adolescence in response to childhood victimization [Capaldi and Clark, 1998; Moffitt et al., 2000; Simons et al., 1995].

Previous studies have also found that childhood victimization increases the risks for the development of antisocial personality disorder (ASPD) [Downs et al., 1996; Weiler and Widom, 1996; Widom, 1997] and higher levels of hostility [Horwitz et al., 2001] in adulthood. Antisocial Personality Disorder, in turn, has been found to be associated with violent offending and aggressive behavior [Kaufman and Zigler, 1993; Magdol et al., 1997] and IPV [Downs et al., 1996]. A hostile temperament has also been found to predict IPV, at least among men [Davidovich, 1990; Leonard, 1999; Tolman and Bennett, 1990]. To the extent that the hypothesized risk of IPV is associated with the development of antisocial behavior in childhood (conduct disorder) or in adulthood (antisocial behavior), the association between childhood victimization and IPV may be due to the common characteristic of antisocial personality disorder developed early on. Alternatively, the association between childhood victimization and IPV may be due to the development of hostility by abused and neglected children.

Childhood victimization has also been linked to the development of alcohol problems, which in turn have been related to IPV [Downs et al., 1996]. In general, both prospective [e.g., Widom et al., 1995] and retrospective [e.g., Miller et al., 1993; Swett et al., 1991; Wilsnack et al., 1997] studies find a strong association between childhood maltreatment (physical and sexual abuse and neglect) and later alcohol problems for women even when parental alcohol abuse and demographic variables are controlled. Retrospective studies of men have also found an association between childhood victimization and later alcohol problems [Blane et al., 1988; Famularo et al., 1986; Hastings and Hamberger, 1988; Straus and Kantor, 1994], although prospective studies have not found this relationship [e.g., Widom et al., 1995]. [For reviews see Downs et al., 1996 ; Widom and Hiller-Sturmhofel, 2001].

Furthermore, there is strong evidence for an association between alcohol use and IPV [e.g., Kantor and Asdigian, 1997; Kantor and Straus, 1987; Leonard, 1993, 2000; White and Chen, 2002]. Excessive drinkers and alcoholics are more likely to act violently toward their intimate partners [Leonard, 2000; Roy, 1982; Scott et al., 1999]. The association between alcohol use and IPV appears to hold for men even when common risk factors are controlled [Kantor and Straus, 1987; Leonard and Blane, 1992; Leonard and Senchak, 1996; Leonard et al., 1985; White and Chen, 2002]. Magdol and colleagues [1997] found that both male and female perpetrators of severe partner violence reported more concurrent symptoms of alcohol dependence than those who were not involved in severe violence. White and Chen [2002] also found that problem drinking predicted male and female perpetration, even when they controlled for common risk factors. However, the relationship between problem drinking and IPV was fully mediated by partner drinking for women. [For a discussion of the potential mechanism that can explain the association between heavy and problem drinking and IPV, see Leonard, 2000; White and Chen, 2002].

In sum, from a mediational perspective, one could postulate that early aggressive behavior, antisocial personality disorder, hostility, and problem drinking may mediate the effects of childhood victimization on IPV. It is also possible that there are gender differences in the consequences of childhood victimization [Widom, 2000b] and that the processes that account for the association between childhood maltreatment and later IPV may operate

differently for men and women [Magdol et al., 1998]. For example, Capaldi and Clark [1998] found that childhood family experiences were more predictive of female than male perpetration of IPV. Magdol and colleagues [1998] found that there were similar developmental antecedents for male and female perpetrators of IPV, but that early family relations were more important for women than for men. In their multivariate analyses, White and Chen [2002] found that witnessing parental fighting but not being beaten as a child predicted male perpetration and neither predicted female perpetration. This body of literature suggests the potential importance of studying the relationship between childhood victimization and subsequent IPV and hypothesized mediating processes separately for men and women.

Present Study

Many studies examining the intergenerational transmission of violence suffer from methodological limitations. Most studies have used retrospective assessments of childhood victimization, with associated errors of recall and lack of reliability and validity of measures [McCauley et al., 1997; Widom and Morris, 1997; Widom and Shepard, 1996]. Studies were often cross-sectional, confounding measurement because the outcome measures were collected at the same time as the predictors. In addition, partner abusers may inaccurately report prior child abuse in order to justify their current behavior [Romans et al., 1995]. Another problem with research in this area has been the reliance on clinical samples of batterers. While these samples have the advantage of locating a large number of individuals with the problem of interest, they are not generalizable to the broader population of partner abusers and for the most part exclude female perpetrators. Studies often lack matched control groups of individuals from comparable backgrounds, which precludes establishing the effect of child abuse, as opposed to the impact of the matrix of socio-economic disadvantage within which childhood maltreatment may occur.

In this study we address many of the limitations of previous studies. We use prospective data and trace long-term outcomes for men and women with documented cases of early childhood physical and sexual abuse and neglect, and a matched control group. Thus, we avoid problems of recall, use of retrospective data, ambiguous operationalizations of abuse and neglect, and limitations to one type of abuse or to only one gender.

The purpose of this study is to assess whether the experience of childhood victimization predicts perpetration of intimate partner violence in young adulthood and to assess the role of alcohol problems and other mechanisms in the association for men and women. Specifically, we test the following hypotheses: 1) Abused and neglected children will report higher levels of IPV perpetration in young adulthood than a matched control group; 2) The effects of childhood victimization on later IPV will be mediated by early aggressive behavior, antisocial personality disorder, problem drinking, and hostility; and 3) The role of these mediators will differ by gender. Rates of IPV vary by age and race/ethnicity [Caetano et al., 2001; Gelles, 1993; Hotaling and Sugarman, 1986; Kantor, 1993; Kantor and Asdigian, 1997; Leonard, 1993], necessitating the control of these variables in the analyses.

METHODS

Design

The data employed in these analyses are part of a research project based on a cohort design study in which abused and neglected children were matched with non-abused and non-neglected children and followed prospectively into young adulthood. Cases were drawn from the records of county juvenile and adult criminal courts in a metropolitan area in the Midwest during the years 1967 through 1971. Only court substantiated cases of child abuse and neglect (see Measures below for definitions) were included. To avoid potential problems with ambiguity in the direction of causality, abuse and neglect cases were restricted to those in which children were less than 12 years of age at the time of the abuse or neglect incident. Thus, these are cases of early childhood abuse and/or neglect [for greater detail on design and participant selection, see Widom, 1989a].

A control group was established with children who were matched on age, sex, race, and approximate family social class during the time period of the study (1967 through 1971). Children who were under school age at the time of the abuse and/or neglect were matched with children of the same sex, race, date of birth (± 1 week), and hospital of birth through the use of county birth record information. For children of school age, records of more than 100 elementary schools for the same time period were used to find matches with children of the same sex, race, date of birth (± 6 months), class in elementary school during the years 1967 through 1971, and home address, preferably within a five-block radius of the abused or neglected child. No members of the control group were reported to the courts for abuse or neglect [Widom, 1989a]. However, some may have experienced unreported abuse or neglect (see the Discussion for greater detail).

The abused and/or neglected individuals and controls were located and interviewed for the first time approximately 20 years later. The follow-up was designed to document long-term consequences of childhood victimization across a number of outcomes. Two-hour in-person interviews were conducted between 1989 and 1995 and included a series of structured and semi-structured questionnaires and rating scales. The interviewers were blind to the purpose of the study, to the inclusion of an abused and/or neglected group, and to the participants' group membership. The participants were also blind to the purpose of the study (i.e., they were told that they had been selected to participate as part of a large group of individuals who grew up in the late 1960s and early 1970s in that area.). Individuals who participated signed a consent form acknowledging that they were participating voluntarily.

Of the original sample of 1,575 (908 abused and neglected individuals and 667 controls), 1,292 participants (82%) have been located and 1,196 interviewed (76%). Of the people not interviewed, 39 were deceased, 9 were incapable of being interviewed, 284 were not found, and 47 refused to participate (a refusal rate of 3%). The final sample consisted of 1,196 individuals (676 abuse/neglect and 520 controls) for whom complete data were available.

Approximately half the sample is female and about two-thirds is white. The mean age of the sample at the time of the interview was 28.7 years. Comparison of the current follow-up sample with the original sample indicated no significant differences in terms of percent male, white, abused and/or neglected, poverty in childhood census tract, or mean current age. The interviewed group (follow-up sample) is significantly more likely to have an official criminal arrest record than the original sample of 1,575 (50% of the current sample versus 45% of the original sample). However, this is not surprising since people with a criminal history are generally easier to find, in part because they have records that assist in locating them. In

addition, at follow up, the control group reported significantly higher levels of education and occupational achievement. Note, however, that both samples are skewed toward the lower end of the socioeconomic spectrum.

MEASURES

Intimate Partner Violence (IPV). We used three questions to assess IPV. The first question asked if participants ever hit or threw things at their partner; the second asked if they ever hit/threw first, and the third asked if they hit/threw first more than once. (For ease of presentation we use only the term “hit” for reporting results in the paper). This information was collected only from those individuals who had ever been married or lived with someone ($N = 961$, 80.4% of the total sample). The abused and neglected and control groups did not differ in the percent ever married or living with someone (80.2%, $N = 542$ and 80.6%, $N = 419$, respectively). Fifty-two percent of the entire sample reported that they had never hit a spouse or partner; 48% of the total reported that they had ever hit a partner but not first; 29% of the total reported that they had hit their partner first but only once; and 22% of the total sample reported that they had hit their partner first more than once. (Note that we only assessed perpetration of IPV because we did not have data on adulthood victimization. However, we are currently conducting another follow up of this sample to collect these data.)

Child Abuse and Neglect. Official records of childhood physical abuse, sexual abuse, and neglect were dichotomized (0 = no, 1 = yes). *Physical abuse* cases included injuries such as bruises, welts, burns, abrasions, lacerations, wounds, cuts, bone and skull fractures, and other evidence of physical injury inflicted by a parent or caregiver. *Sexual abuse* charges varied from relatively non-specific charges of “assault and battery with intent to gratify sexual desires” to more specific charges of “fondling or touching in an obscene manner,” rape, sodomy, incest, and so forth perpetrated by parents, relatives, caregivers, acquaintances, and strangers. *Neglect* cases reflected a judgment that the parent’s (or caregiver’s) deficiencies in child care were beyond those found acceptable by community and professional standards at the time. These cases represented extreme failure to provide adequate food, clothing, shelter, and medical attention to children. The overall *abuse/neglect* variable is a dichotomous variable based on official records of any of the three types of maltreatment (0 = control, 1 = abuse/neglect).

Mediators. The National Institute of Mental Health Diagnostic Interview Schedule revised (DIS-III-R), which corresponds to the third version revised of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-III-R) diagnoses [American Psychiatric Association, 1987], was used to gather information on early aggression, antisocial personality disorder and alcohol abuse/dependence. The DIS-III-R is a fully structured interview schedule designed for use by lay interviewers and has demonstrated reliability and validity [Helzer et al., 1985]. Although the DIS-III-R is a structured interview schedule, interviewers received a week of training in the administration of the interview.

Early aggressive behavior is measured by six items from the conduct disorder component antisocial personality disorder module of the DSM-III-R [American Psychiatric Association, 1987] focusing on acts of aggression before age 15. These include: getting into fights, using a weapon in a fight, trying to physically hurt someone, hurting or killing animals on purpose,

robbing or mugging, and intentionally damage someone's property. These six items were selected out of all the items from the conduct disorder component because they focused specifically on aggressive behaviors. Due to high kurtosis, this variable was log transformed.

Antisocial personality disorder was assessed by DSM-III-R [American Psychiatric Association, 1987] criteria. In these analyses, we used the symptom count. The total number of positive adult lifetime symptoms ranged from 0-30, and includes behaviors such as antisocial and criminal behaviors, fighting, lying, and impulsivity. One item from the antisocial personality disorder module was omitted from this index because it referred to hitting a spouse. This variable was logged because of high kurtosis.

Alcohol problems were assessed according to the DSM-III-R criteria [American Psychiatric Association, 1987]. For these analyses we counted the total number of lifetime symptoms (range 0-9) for alcohol dependence (out of 9 possible symptoms, such as continued substance use despite knowledge of having a problem that is caused or exacerbated by the use of the substance, marked tolerance, and characteristic withdrawal symptoms).

Hostility is based on a six-item scale taken from the Symptom Checklist [SCL-90; Derogatis, 1977], a multidimensional self-report symptom inventory. Participants were asked how often in the past year they experienced hostile feelings, such as having "urges to break or smash things" and "urges to beat, injure or harm someone." The hostility subscale has acceptable reliability and validity [Derogatis and Cleary, 1977]. In the present usage, the alpha was 0.78.

Control Variables. *Age* was an interval variable which referred to the person's age at the time of the interview (abuse/neglect mean = 29.2; control mean = 29.3). *Race/ethnicity* was based on self-reported interview responses. African-American non-Hispanics were used as the reference group (abuse/neglect = 26.4%; controls = 31.7%) and compared to white, non-Hispanics (abuse/neglect = 66.0%; controls = 64.4%) and to all other ethnic groups (abuse/neglect = 7.6%; controls = 3.9%).

RESULTS

Prevalence of IPV

First, we compared the prevalence of each of the three measures of IPV between the abused and neglected and control groups using chi square analyses. We conducted these analyses for the total sample and for men and women separately (see Table 1). As shown, significantly

TABLE 1. Prevalence of IPV in Abused/Neglected (A/N) and Control (C) Groups by Gender

	Total (N = 939)		Men (N = 446)		Women (N = 493)	
	A/N	C	A/N	C	A/N	C
Ever Hit	53.0	41.1***	37.8	27.8*	65.5	54.6*
Ever Hit First	31.6	25.1*	19.5	12.7	41.6	37.7
Hit First More Than Once	25.1	18.4*	14.6	10.9	33.8	26.1

***p < 0.001; *p < 0.05 by chi square analysis.

more of the abused and neglected group compared to the controls had *ever hit* their partner (chi square = 13.42, df = 1, $p < 0.001$), *hit first* (chi square = 4.86, df = 1, $p < 0.05$) and *hit first more than once* (chi square = 6.18, df = 1, $p < 0.01$).

Significantly more abused and neglected compared to control males ever hit their partner (chi square = 5.11, df = 1, $p < 0.05$), and significantly more abused and neglected than control females ever hit their partner (chi square = 6.14, df = 1, $p < 0.01$, respectively). However, there were no significant differences ($p > 0.05$) for hitting first or hitting first more than once for either sex.

As shown in Table 1, more women than men in both the abused/neglected and control samples reported ever hitting, hitting first, and hitting first more than once. All of these sex differences were significant ($p < 0.001$) in the total sample as well as in the abuse/neglect and control samples separately.

Mediation Analyses

We then examined whether early aggressive behavior, antisocial personality disorder, hostility, and problem drinking mediated the effects of child abuse and neglect on IPV. The mediation analyses were conducted separately for each of the four mediators following the conditions outlined by Baron and Kenny [1986]. These four conditions were tested by conducting a series of logistic and ordinary least squares regression analyses. The conditions are: (1) child abuse and neglect must significantly predict IPV; (2) child abuse and neglect must significantly predict the mediator; (3) the mediator must significantly predict IPV; and (4) the effect of child abuse and neglect on IPV must be reduced when the mediator is included in the model.

We conducted these analyses separately for men and women and the results are presented in Table 2. First, we tested whether child abuse/neglect would significantly predict the ever hit measure of IPV, controlling for age and race/ethnicity. (The mediational analyses were only conducted for the ever hit measure of IPV because there were no significant differences between abused and neglected men and women on the other two IPV measures.) For both men and women, childhood abuse and neglect was a significant predictor of ever hitting a partner even when demographic variables were controlled. The odds ratio is shown in the first

TABLE II. Mediation Models Predicting IPV (Ever Hit) Controlling for Race/Ethnicity and Age for Men and Women (Odds Ratios Presented)

Mediator	Early Aggression	Antisocial Personality Disorder	Alcohol Problems	Hostility
Men				
Abuse/neglect	1.59*	1.59*	1.59*	1.59*
Mediator	4.39***	17.69***	1.31***	2.53***
A/N w/Mediator	nt	1.28	nt	nt
Women				
Abuse/neglect	1.56*	1.56*	1.56*	1.56*
Mediator	8.08**	8.46***	1.18***	3.35***
A/N w/Mediator	nt	1.32	1.44	1.35

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; nt = not tested.

row of each model. Neither age nor race/ethnicity significantly predicted ever hitting a partner for men or women (not shown).

We next regressed each mediator on child abuse and neglect. For men, child abuse and neglect significantly predicted antisocial personality disorder ($\beta = 0.14$, $p < 0.01$), but not early aggression ($\beta = 0.08$, $p > 0.05$), alcohol problems ($\beta = 0.05$, $p > 0.05$), or hostility ($\beta = 0.08$, $p > 0.05$). For women, abuse and neglect significantly predicted antisocial personality disorder ($\beta = 0.16$, $p < 0.001$), alcohol problems ($\beta = 0.12$, $p < 0.01$), and hostility ($\beta = 0.10$, $p < 0.05$), but not aggression ($\beta = 0.07$, $p > 0.05$). Therefore, we tested the final mediation models for antisocial personality disorder for men and for every mediator but early aggression for women.

Child abuse/neglect was then regressed on all four mediators controlling for age and race/ethnicity. All four mediators significantly predicted ever hitting a partner for both men and women. The odds ratios are shown in the second row of each model in Table 2.

Finally, we regressed IPV on both child abuse and neglect and the mediator controlling for age and race/ethnicity. The odds ratios are shown in the third row of each model. When antisocial personality disorder and abuse/neglect were included in the same model, the odds ratio for abuse/neglect was reduced to nonsignificance for men. Therefore, antisocial personality disorder mediated the effects of child abuse and neglect on later IPV for men. The final models for the other three potential mediator variables were not examined because these potential mediators did not meet the second condition for proof of mediation.

For women, when each of the mediators and abuse/neglect were included in the same model, the odds ratio for abuse/neglect was reduced to nonsignificance in all three viable models. Therefore, antisocial personality disorder, alcohol problems, and hostility mediated the effects of child abuse and neglect on later IPV for females, but early aggression did not.

DISCUSSION

Using a prospective cohort design with documented cases of childhood abuse and neglect, the present results demonstrate a significant relationship between childhood abuse and neglect and subsequent IPV for both men and women. These relationships persisted despite controls for age and race/ethnicity, two demographic characteristics associated with IPV.

We found higher rates of IPV perpetration among women compared to men in both the abused and neglected as well as control samples. This finding is consistent with that found in community samples that examine primarily common couple violence [Archer, 2000; Magdol et al., 1997; Straus, 1999; White and Chen, 2002]. However, the differences may be more extreme here than found elsewhere. For example, in the total sample, women had three times the risk of perpetrating each of these acts compared to men (not shown). In fact, rates of perpetration were especially high for the women in this sample. In national studies, lifetime prevalence of marital aggression is approximately 30% [Leonard, 1993]. Here, abused and neglected women reported rates (65.5%) about twice as large as national estimates and abused and neglected men reported rates (37.8%) only slightly higher than the national estimates. Rates of IPV for the control women (54.6%) were also considerably higher than the rates found in the general population, whereas the rates for men (27.8%) were quite similar to national rates. The high rates for women in both samples most likely reflect the disadvantaged social circumstances in both groups compared to the general population. In

addition, in both samples there is a much larger proportion of African Americans compared to general population surveys, and African-American women report higher levels of IPV than their white counterparts [Caetano et al., 2001].

We were interested in the processes that might mediate the effects of childhood abuse and neglect on later IPV. We found that the adult antisocial personality disorder mediated the effects of early childhood victimization on perpetration of IPV in adulthood for men and women. In contrast, early aggressive behavior did not mediate the effects of abuse and neglect on later IPV for either men or women. Given that antisocial personality disorder includes aggressive behavior as part of a larger set of antisocial behaviors (such as lying and impulsive behaviors), our results suggest that it is the more general pattern of antisocial behavior (not simply aggression) that is significant. Furthermore, the findings suggest that it is behavior in adulthood that is proximal to the perpetration of IPV, rather than earlier distal behaviors, that mediates the relationship between childhood victimization and IPV. Note that the one item referring to hitting a partner was removed from the antisocial personality disorder scale, so the two adult measures were not confounded. Nevertheless, the results suggest that IPV may be part of a larger constellation of antisocial tendencies [see Moffitt et al., 2000].

Hostility also mediated the effect of childhood abuse and neglect on hitting a partner for women. This is consistent with attachment theory explanations that have been put forth to explain aggressive and violent behavior among abused and neglected children. Ainsworth [1989] has described the phenomenon whereby children adopt what she called a "hostile world view." According to this theory, when children experience inconsistent, hazardous care or rejection as infants, they are likely to interpret neutral or even friendly behavior as hostile. The work of Dodge and colleagues [1990] provides some empirical support for this relationship in young children. While attachment theory explanations have been proposed for aggressive and violent behavior in general, our findings suggest that hostility may play an important role in IPV as well. On the other hand, it is also possible that abused and neglected children (particularly those whose cases are brought to the attention of the courts) may develop hostility in response to increased surveillance by social service and/or juvenile justice agencies. In turn, these angry and hostile feelings may give way to antisocial and violent behavior [Widom, 2000a].

Alcohol problems mediated the effects of child abuse and neglect on IPV for women, but not for men. Consistent with prior research on this sample, child abuse and neglect significantly predicted alcohol problems for women, but not for men [Widom et al., 1995]. Nevertheless, alcohol problems were a significant predictor of IPV perpetration for both men and women, which is also consistent with the literature [e.g., Leonard, 2000; White and Chen, 2002]. The findings indicate that women who were abused and/or neglected as children are more likely to develop alcohol problems and these problems increase the risk for perpetrating IPV. It is also possible that the effects of child abuse and neglect on IPV may be mediated through the use of alcohol at the time of the incident rather than by lifetime patterns of drinking problems [Leonard, 1993]. We did not have data on drinking behavior at the time of perpetration and could not test this hypothesis.

One limitation of this study was that the measure of IPV was based on only three questions and we measured a relatively nonserious type of IPV, hitting or throwing objects. Thus, our results may not be generalizable to more serious types of IPV. In addition, as these data contained only subjects's self reports, there is no way to confirm the IPV behavior. Another limitation has to do with the assumed causal ordering between the mediators and IPV. In some instances the mediator may have developed after the first experience of IPV. Caution

must also be used in not generalizing from these findings to other cases of child abuse and neglect. Abuse and neglect cases in this study were identified through official records from about 25 years ago and represent children whose cases were processed through the courts. At the time many cases, those that were are skewed toward the lower end of the socio-economic spectrum, were not reported and never came to the attention of the authorities. The matching procedure selected the controls in this study predominantly from lower socio-economic strata. Thus, these findings do not apply to all cases of childhood victimization and are not generalizable to unreported cases of abuse and neglect or to cases of childhood maltreatment and/or IPV among middle and upper class respondents. Also, some number of the control group may have been abused in childhood without the individual's case coming to the attention of authorities. These children might have been misclassified in the assignment to the control group. Although we eliminated all known cases of child abuse and neglect from the control group, we have no way of knowing how many cases of abuse went unreported in this sample. Finally, we did not differentiate between different types of victimization. Although this differentiation was beyond the scope of the present study, this topic warrants future consideration.

In spite of these limitations, the study had several advantages. This is the first prospective study of IPV to follow a large sample of individuals with documented cases of childhood abuse and neglect and matched controls into young adulthood. We compared the abused and neglected individuals to matched controls and controlled for relevant sociodemographic variables that have been related to IPV. In addition, we examined the associations separately for men and women. Finally, we examined potential mediators that might account for the association between childhood abuse and neglect and later perpetration of IPV. Overall, this prospective study suggests that there is a link between early childhood victimization and later perpetration of violence against partners for both men and women. This link may result from the development of alcohol problems or hostility in women, acquired as coping mechanisms to deal with their early maltreatment. For both genders, IPV might also result from the development of antisocial personality disorder, which may be due to social learning processes and modeling. Additional mechanisms should be investigated in future research.

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REFERENCES

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| <p>Ainsworth MS. 1989. Attachments beyond infancy. <i>Am Psychol</i> 44:709–716.</p> <p>American Psychological Association 1987. <i>Diagnostic and Statistical Manual of Mental Disorders</i>. Washington, DC: American Psychiatric Association.</p> | <p>Archer J. 2000. Sex differences in aggression between heterosexual partners: A meta-analytic review. <i>Psychol Bull</i> 126:651–680.</p> <p>Baron RM, Kenny DA. 1986. The moderator-mediator variable distinction in social psychological research:</p> |
|--|---|

- Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol* 6:1173–1182.
- Blane HT, Miller BA, Leonard KE. 1988. Intro- and inter-generational aspects of serious domestic violence and alcohol and drugs. Washington, DC: National Institute of Justice.
- Caetano R, Schafer J, Cunradi CB. 2001. Alcohol-related intimate partner violence among White, Black, and Hispanic couples in the United States. *Alcohol and Research World* 25:58–65.
- Capaldi DM, Clark S. 1998. Prospective family predictors of aggression toward female partners for at-risk young men. *Dev Psychol* 34:1175–1188.
- Capaldi DM, Crosby L. 1997. Observed and reported psychological and physical aggression in young, at-risk couples. *Soc Dev* 6:184–206.
- Davidovich JR. 1990. Men who abuse their spouses: Social and psychological supports. *Clinical Treatment of the Criminal Offender* 15:27–44.
- Derogatis LR. 1977. *SCL-90-R Administration, Scoring, and Procedures Manual*, Vol. 1. Baltimore: Johns Hopkins University, School of Medicine.
- Derogatis LR, Cleary PA. 1977. Confirmation of the dimensional structure of the SCL-90: A study in construct validation. *J Clin Psychol* 33:981–989.
- Dodge KA, Bates JE, Pettit GS. 1990. Mechanisms in the cycle of violence. *Science* 250:1678–1683.
- Downs WR, Smyth NJ, Miller BA. 1996. The relationship between childhood violence and alcohol problems among men who batter: An empirical review and synthesis. *Aggress Violent Behav* 1:327–344.
- Dutton DG, Hart SD. 1992. Evidence for long-term, specific effects of childhood abuse and neglect on criminal behavior in men. *Int J Offender Ther Comp Criminol* 36:129–137.
- Edelson JL, Eisilovits Z, Guttman E. 1985. Men who batter women. *J Fam Issues* 6:229–247.
- Else L, Wonderlich SA, Beatty WW, Christie DW, Staton RD. 1993. Personality characteristics of men who physically abuse women. *Hosp Community Psychiatry* 44:54–58.
- Famularo R, Stone K, Barnum R, Wharton R. 1986. Alcoholism and severe child maltreatment. *Am Orthopsychiatry* 56:481–485.
- Gelles RJ. 1993. Alcohol and other drugs are associated with violence- They are not its cause. In: Gelles RJ, Loseke DR, editors. *Current controversies on family violence*. Newbury Park, CA: Sage Publications. p 182–196.
- Hastings JE, Hamberger KL. 1988. Personality characteristics of spouse abusers: A controlled comparison. *Violence Vict* 3:31–48.
- Helzer JE, Robins LN, McEvoy LT, Spitznagel EL, Stoltzman RK, Farmer A, Brockington IF. 1985. A comparison of clinical and diagnostic interview schedule diagnoses. *Arch Gen Psychiatry* 42:657–666.
- Holtzworth-Munroe A, Stuart GL. 1994. Typologies of male batterers: Three subtypes and the differences among them. *Psychol Bull* 116:476–497.
- Horwitz AV, Widom CS, McLaughlin J, White HR. 2001. The impact of early childhood abuse and neglect on adult mental health: A prospective study. *J Health Soc Behav* 42:1184–1201.
- Hotaling GT, Sugarman DB. 1986. An analysis of risk markers in husband to wife violence: The current state of knowledge. *Violence Vict* 1:101–124.
- Kantor GK. 1993. Refining the brushstrokes in portraits of alcohol and wife assaults. In: Martin S, editor. *Alcohol and interpersonal violence: Fostering multidisciplinary perspectives*, NIAAA research monograph no. 24, Rockville, MD: National Institute of Health. p 281–290.
- Kantor GK, Asdigian N. 1997. When women are under the influence: Does drinking or drug use by women provoke beatings by men? In: Galanter M, editor. *Recent developments in alcoholism*, vol. 13. New York: Plenum Press. p 315–336.
- Kantor GK, Straus MA. 1987. The “drunken bum” theory of wife beating. *Soc Prob* 34:213–230.
- Kaufman J, Zigler E. 1993. The intergenerational transmission of abuse is overstated. In: Gelles RJ, Loseke DR, editors. *Current controversies on family violence*. Newbury Park, CA: Sage Publications. p 209–221.
- Lee WV, Weinstein SP. 1997. How far have we come? A critical review of the research on men who batter. In: Galanter M, editor. *Recent developments in alcoholism*, vol 13. New York: Plenum Press. p 337–356.
- Leonard KE. 1993. Drinking patterns and intoxication in marital violence: Review, critique, and future directions for research. In: Martin S, editor. *Alcohol and interpersonal violence: Fostering multidisciplinary perspectives*, NIAAA research monograph no. 24, Rockville, MD: National Institute of Health. p 253–280.
- Leonard KE. 1999. Alcohol use and husband marital aggression among newlywed couples. In: Arriaga XB, Oskamp S, editors. *Violence in intimate relationships*. Thousand Oaks, California: Sage Publication. p 113–135.
- Leonard KE. 2000. Domestic violence and alcohol: What is known and what do we need to know to encourage environmental interventions. Paper presented at the meeting of the National Crime Prevention Council, Alcohol and Crime: Research and Practice for Prevention. Washington, D.C.
- Leonard KE, Blane HT. 1992. Alcohol and marital aggression in a national sample of young men. *J Interpers Viol* 7:19–30.
- Leonard KE, Bromet EJ, Parkinson DK, Day NL, Ryan CM. 1985. Patterns of alcohol use and physically aggressive behavior in men. *J Stud Alcohol* 46: 279–282.

- Leonard KE, Senchak M. 1996. Prospective prediction of husband marital aggression within newlywed couples. *J Abnorm Psychol* 105:369–380.
- Magdol L, Moffitt TE, Caspi A, Newman DL, Fagan J, Silva PA. 1997. Gender differences in partner violence in a birth cohort of 21-year-olds. *J Consult Clin Psychol* 65:68–78.
- Magdol L, Moffitt TE, Caspi A, Silva PA. 1998. Developmental antecedents of partner abuse: A prospective-longitudinal study. *J Abnorm Psychol* 107:375–389.
- Maxfield MG, Widom CS. 1996. The cycle of violence: Revisited six years later. *Arch Pediatr Adolesc Med* 150:390–395.
- McCauley J, Kern DE, Kolodner K, Dill L, Schroeder AD, DeChant HK, Ryden J, Derogatis LR, Bass EB. 1997. Clinical characteristics of women with a history of childhood abuse: Unhealed wounds. *J Am Med Assoc* 277:1362–1368.
- Miller BA, Downs WR, Testa M. 1993. Interrelationships between victimization experiences and women's alcohol use. *J Stud Alcohol Suppl* 11:109–117.
- Miller BA, Maguin E, Downs WR. 1997. Alcohol, drugs, and violence in children's lives. In: Galanter M, editor. *Recent developments in alcoholism: volume 13. Alcoholism and violence*. New York: Plenum Press. p 357–385.
- Moffitt TE, Krueger RF, Caspi A, Fagan, J. 2000. Partner abuse and general crime: How are they the same? How are they different? *Criminology* 38: 199–232.
- O'Leary KD. 1993. Through a psychological lens personality traits, personality disorders, and levels of violence. In: Gelles R, Loseke D, editors. *Current controversies on family violence*. Park, CA: Sage Publications. p 7–30.
- Romans SE, Martin JL, Anderson JC, O'Shea ML, Mullens PE. 1995. Factors that mediate between child sexual abuse and adult psychological outcome. *Psychol Med* 25:127–142.
- Rosenbaum A, O'Leary KD. 1981. Marital violence: Characteristics of abusive couples. *J Consult Clin Psychol* 49:63–71.
- Roy M. 1982. *The abusive partner: An analysis of domestic battering*. New York: Van Nostrand Reinhold.
- Schafer J, Caetano R, Clark CL. 1998. Rates of intimate partner violence in the United States. *Am J Public Health* 88:1702–1704.
- Scott KD, Schafer J, Greenfield TK. 1999. The role of alcohol in physical assault perpetration and victimization. *J Stud Alcohol* 60:528–536.
- Simons RL, Wu C, Johnson C, Conger RD. 1995. A test of various perspectives on the intergenerational transmission of domestic violence. *Criminology* 33:141–172.
- Smith C, Thornberry TP. 1995. The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology* 33: 451–477.
- Stouthamer-Loeber M, Loeber R, Homish DL, Wei E. 2001. Maltreatment of boys and the development of disruptive and delinquent behavior. *Dev Psychopathol* 13:941–955.
- Straus MA. 1999. The controversy over domestic violence by women: A methodological, theoretical, and sociology of science analysis. In: Arriaga XB, Oskamp S, editors. *Violence in intimate relationships*. Thousand Oaks, CA: Sage Publications. p 17–44.
- Straus MA, Kantor GK. 1994. Corporal punishment of adolescents by parents: A risk factor in the epidemiology of depression, suicide, alcohol abuse, child abuse, and wife beating. *Adolescence* 29:543–562.
- Swett Jr C, Cohen C, Surrey J, Compaine A, Chavez R. 1991. High rates of alcohol use and history of physical and sexual abuse among women outpatients. *Am J Drug Alcohol Abuse* 17:49–60.
- Tjaden P, Thoennes N. 2000. *Extent, nature, and consequences of intimate partner violence: Findings from the national violence against women survey (NCJ187867)*. Washington DC: US Department of Justice.
- Tolman RM, Bennett LW. 1990. A review of quantitative research on men who batter. *J Interpers Violence* 5:87–118.
- Weiler BL, Widom CS. 1996. Psychopathy and violent behaviour in abused and neglected young adults. *Crim Behav Ment Health* 6:253–271.
- White HR, Chen P-H. 2002. Problem drinking and intimate partner violence. *J Stud Alcohol*.
- Widom CS. 1989a. Child abuse, neglect and adult behavior: Research design and findings on criminality, violence, and child abuse. *Am J Orthopsychiatry* 59:355–367.
- Widom CS. 1989b. The cycle of violence. *Science* 244:160–166.
- Widom CS. 1997. Child abuse, neglect, and witnessing violence. In: Stoff, DM, Brieling, J, Maser, JD, editors. *Handbook of antisocial behavior*. New York: John Wiley and Sons. p 159–170.
- Widom CS. 2000a. Motivation and mechanisms in the "cycle of violence". In: Hansen D, editor. *Nebraska Symposium on Motivation*, vol.46. Lincoln, NE: University of Nebraska Press. p 1–37.
- Widom CS. 2000b. Understanding the consequences of child abuse and neglect. In: Reece RM, editor. *Treatment of child abuse*. Baltimore, MD: Johns Hopkins University Press. p 339–361.
- Widom CS, Hiller-Sturmhofel S. 2001. Alcohol abuse as a risk factor for and consequences of child abuse. *Alcohol Res Health* 25:52–57.

- Widom CS, Ireland T, and Glynn PJ. 1995. Alcohol abuse in abused and neglected children followed-up: Are they at increased risk: *J Stud Alcohol* 56: 207–217.
- Widom CS, Morris S. 1997. Accuracy of adult recollections of childhood victimization: Part 2. Childhood sexual abuse. *Psychol Assess* 9:34–46.
- Widom CS, Shepard R. 1996. Accuracy of adult recollections of childhood victimization: Part I: Childhood physical abuse. *Psychol Assess* 8:412–421.
- Wilsnack SC, Vogeltanz ND, Klassen AD, Harris TR. 1997. Childhood sexual abuse and women's substance abuse: National survey findings. *J Stud Alcohol* 58:264–271.